## PROVIDING HYPERLINKS IN WEB DOCUMENTS LINKABLE TO OTHER ALTERNATIVE WEB DOCUMENTS IN A WORLD WIDE WEB NETWORK

## Technical Field

5

30

The present invention relates to computer managed communication networks such as the World Wide Web (Web) and, particularly, to ease of use of interactive computer controlled display interfaces to receive hypertext documents with hyperlinks that interactively link users from such documents to other documents and programs.

## 10 Background of Related Art

The past decade has been marked by a technological revolution driven by the convergence of the data processing industry with the consumer electronics industry. The effect has, in turn, driven technologies that have been known and available but relatively 15 quiescent over the years. A major one of these technologies is the Internet or Web related distribution of documents, media and programs. The convergence of the electronic entertainment and consumer industries with 20 data processing exponentially accelerated the demand for wide ranging communication distribution channels, and the Web or Internet, which had quietly existed for over a generation as a loose academic and government data distribution facility, reached "critical mass" and 25 commenced a period of phenomenal expansion. With this expansion, businesses and consumers have direct access to all matter of documents, media and computer programs.

In addition, Hypertext Markup Language (HTML), which had been the documentation language of the Internet or Web for years, offered direct links between pages and other documentation on the Web and a variety of related

15

20

25

data sources that were at first text and images, e.g. both JPEG and MPEG, and then evolved into media, i.e. "hypermedia". Web documents may also include applets and other programming routines. (The term Web documents as used herein is meant to include all such data documents.) This even further exploded the use of the Internet or Web.

A major problem encountered by all Web users is the amount of wasted time that the user spends in misdirection, e.g. the "blind alleys" that the user often traverses in trying to get to an appropriate Web site or Web document. It is clearly in the interest of all businesses and organizations that use the Web to have their customers and clients reach their intended destinations on the Web as expeditiously and quickly as possible.

A significant source of this time waste is in the Web page (the basic document page of the Web) itself. In the case of Web pages, we do not have the situation of a relatively small group of professional designers working out the human factors. Rather, in the era of the Web, anyone and everyone can design a Web page. Pages are frequently designed by developers without usability skills. As a result, Web pages are frequently set up and designed in an eclectic manner. Often Web pages are set up through loose business, professional, social and educational configurations with general trade or public input of Web pages.

The proliferation of hyperlinks into a variety of
Web documents of varying reliability presents dilemmas to
businesses, educational and governmental institutions
interested in the use of the Web for the wide
distribution of their work products. On the one hand, it

15

20

25

is the primary purpose of the hypertext - HTML concept to permit the widespread dissemination of information,
including media and programming through linked documents.
On the other hand, the hyperlinks to Web sites and
documents incorporated into Web documents maintained by
unskilled hosts may be inappropriate for the purposes of
the owners and hosts of the Web sites and documents to
which the hyperlinks are linked.

Accordingly, the host of a Web site may determine that an activated hyperlink from a Web document to his site may be inappropriate. However, applying a business principle of never turning a potential customer or client away, there is a need to give Web site hosts such an option. An example of such a situation may be found with secure or private Web sites. Should a user who is not authorized for access to a secure Web site be hyperlinked to the site? It would be desirable for the Web site host to have an alternative so that it would be not be necessary to refuse access and thereby annoy and perhaps alienate a potential customer.

In addition, while most business organizations have been operating effective secure private networks within their organizations in the past, the greatly increasing quantities of capacity and bandwidth on the Web have made it very economically attractive for businesses to use the Web for access to their private, i.e. secure sites and public sites. In this regard, there is a need to effectively route activated hyperlinks to the appropriate public or private sites.

## 30 Summary of the Present Invention

The present invention provides a system, method and program to link a user activating a hyperlink in a Web

20

25

30

page to alternate Web documents or sites appropriate to
the needs of the users and the owners or hosts of the Web
sites. Accordingly, the present invention comprises the
combination of means for linking at least one of the
hyperlinks in a Web document when activated to access a
selectable one of a plurality of alternate Web documents
including media and programming respectively at alternate
sites, means for predetermining the one of the plurality
of alternate Web documents selected to be accessed upon
said activation of said hyperlink, and means responsive
to the predetermining means for accessing the alternate
Web document selected to be accessed.

The means for predetermining may just be the Web address or IP address of the user; e.g. this IP address may be used to predetermine the selection based upon geographical location of the requesting user's receiving Web station. Of course, the IP address may be used to determine whether the requesting user is authorized for access to a secure Web document or site. The protected site may be a secure or private internal network of the host of the Web site accessed by the hyperlink.

In one application of this invention, the host of the site of the Web documents accessed through the activated hyperlink may be a business organization, the alternate Web documents could include public documents and protected private Web documents; and the means for selecting could include server means associated with the Web site of the host for storing the IP addresses of the host's employees, whereby the private Web documents would be selected for the host's employees.

The present invention will be better when he will be present invention will be better when he will be better when its numerous there evilled in the ent in the ent to Its numerous objects and advantages will become more to to reference to reference to the accommanying the numerous those skilled in conjunction with the accommanying apparent to those in conjunction with the accommanying apparent to the accommandation with the accommandati Brief nescription of the Drawings apparent to those skilled in the art by reference to the with the accompanying on junction with the accompanying following in which:

specification. rig. a generalized diagrammatic view of a web portion showing how a Web site may be controlled hymerlink portion showing how a web site may be controlled hymerlink a route the same activated hymerlink portion showing how a Web site may be controlled through the same activated hyperlink to the s a server system to route the same activated hyperium to the from a Web document at a requesting station to the specification, in which: opriate alternative web site; adata processing of a data processing about diagram of a data processing are not a site of a data processing are not as a site of a data processing are not a data process Fig. 2 ls a plock quagram or a data processing unit and network and processing unit and retwork including a communications adapter that which is system including a communications adapter that which is appropriate alternative Web site; connections via a communications adapter that which is a communications adapter that which in the connections via a communications as a display for routing the conver for routing and as the corver for routing and as the corver for routing and as the corver for routing the capable of function and as the corver for routing wen etation and as the corver for routing the connections of the connections are considered. capable of functioning both as a display computer for a the server for routing the receiving web station and as the server for routing the receiving web station and from a wan accument at a receiving activisted hyperstated and server activisted hyperstated and server activisted hyperstated hyp recelving web station and as the server for routing web document at a same activated hyperlink same activated nyperlink from a web document at Fig. 3 is an illustrative flowchart describing the Fig. 3 is an illustrative thouchart descriping to the setting up of the for routing the same activated to the setting up of the for routing the same activated to the setting up of the for routing the same activated to the setting up of the for routing the setting up of present invention from a Web document were site. and hyperlink from a liternative were site. Secting up of the elements of the same activated for routing the same invention in the same in the Appropriate alternative were allustrative run of the rig. 4 is a flowchart of an illustrative run of the rig. 4 is a flowchart of an illustrative run of the rig. the appropriate alternative Web site; sitei Detailed Description of the Preferred Embodiment Before going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific and the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further into the details of specific as more going further going furthe berore going further into the details of specific from a more to understand from a that to understand methods that the various elements and methods the various elements and methods the various elements. 20 embodiments, it will be neighbour elements and methods that the various elements are the major general perspective the process invention program set up in Fig. 3. general perspective the various elements and methods major since was named invention.

The present invention is directed to the present invention. may pe related to the present invention is directed to web pages aspect of the present invention is directed to web pages 25 30

15

20

25

30

transmitted over global networks, such as the Web or Internet, an understanding of networks and their operating principles would be helpful. We will not go into great detail in describing the networks to which the present invention is applicable. For details on Web nodes, objects and links, reference is made to the text, Mastering the Internet, G. H. Cady et al., published by Sybex Inc., Alameda, CA, 1996; or the text, Internet: The Complete Reference, Millennium Edition, Margaret Young et al., Osborne/McGraw-Hill, Berkeley, CA, 1999. Any data communication system that interconnects or links computer controlled systems with various sites defines a communications network. Of course, the Internet or Web is a global network of a heterogeneous mix of computer technologies and operating systems. Higher level objects are linked to the lower level objects in the hierarchy through a variety of network server computers.

Web documents are conventionally implemented in HTML language, which is described in detail in the text entitled: <u>Just Java</u>, van der Linden, 1997, SunSoft Press, particularly at Chapter 7, pp. 249-268, dealing with the handling of Web pages; and also in the above-referenced <u>Mastering the Internet</u>, particularly pp. 637-642, on HTML in the formation of Web pages.

Referring now to Fig. 1, there is provided a generalized view of a network, such as the Web or Internet (used interchangeably herein), showing illustrative Web sites 54 and 55, as well as some IP addresses 63, 64 and 65 representative of receiving display stations from which users may be making requests for access to the Web sites. The open Web sites are connected to the Web communication network through servers such as server 51 to move data to and from the

AUS920030388US1

Web 50. Likewise, via servers at various IP addresses are vers at various IP addresses at variou web 50. Likewise, users at various IP addresses are web so via servers 61 and 62.

Connected to Web 50 via servers are morp of a protocole weight connected to weight convertional morp of the reinforce is done weight connected to weight convertional morp of the servers at various in addresses are web so weight connected to we connected to Web 50 via servers 61 and 62. Accessing Wer to web 50 via servers 61 arcp/IP protocols using conventional TCP/IP protocols using conventional in Astail in the text sites is done using conventional in Astail in the text sites is and accommon to the conventional in Astail in the text sites is addressing to address in the conventional in the convention in the conventional i This is described in detail in the text IP addressing. Frank J. Derfler, Indianancia IN Using Networks, Frank J. Derfler, Indianancia IN Using Networks, Frank J. Derfler, Indianancia Thus, of hie receiving a request will have an area every user procession as each of hie receiving a reaction. Macmillan Computer Publishing Trank J. Derrier Indianapolis In.

Nacmillan Computer Publishing Trank J. Derrier Trank J. Derr IF address or his receiving display station. Pror the web site is a corporate that the web site is IP address of his receiving display station. embodiment, assume that the Web site is a corporate wachines who are the International Business wachines the International across of the pusiness site, e.g. aita carvad hy carvar si business site, (TRM) aita carvad hy corporation IP addressing. corporation (IBM) site served by server 51. and 68, as corporation or public Web sites 54, 55 and 68, as IBM site has open or intranet sites 57 secured and IBM site nrivate or intranet sites Corporation (IBM) site served by server 51. well as private or intranet sites 57 secured and means

well as private or intranet server facility has a

protected by network 56. The server facility has a

protected by network 62

protected by network 62 LEW Site nas open or public web sites 57 secured and well as private or intranet sites well as private or intranet sites nas as well as router by. The storage tachlity has a those who are the first addresses of all of the IP addresses to the reinstructure of the IP addresses to the reinstructure of the IP addresses to the reinstructure of LIST of or the have access to the private network and authorized to have aleniar etarion on the authorized to have aleniar etarion on the man at a dieniar etarion on the man at any aleniar etarion etari authorized to have access to the private network of any of IP authorized to have access to the private network in a web at any of IP authorized to have access to the private network in a web at any of IP authorized to have access to the private network of IP web at any of IP web at any of IP authorized to have access to the private network of IP web at any of I Thus, a user at a display station on the web at any or it as web at any or it as web at any or it as web.

Thus, a user at a display select a hyperlink in a web at any or it as web.

Thus, a user at a display station on the web at any or it as web.

Thus, a user at a display station on the web at any or it as web.

Thus, a user at a display station on the web at any or it as web.

Thus, a user at a display station on the web at any or it as web.

Thus, a user at a display station on the web at any or it as web.

Thus, a user at a display station on the web at any or it as web.

Thus, a user at a display station on the web at any or it as web.

Thus, a user at a display station on the web at any or it as web.

Thus, a user at a display station on the web at any or it as web. 53, as well as router 52. addresses 63 through 65 may select a nyperlink in a through the Web into server so an angle that is linked through the web hath page that is raw web eith ever the page that is raw web eith ever to me hath page that is raw web eith ever to me hath page that is raw web eith ever to me hath page that is raw web eith ever to me hath page that is raw web eith ever to me hath page that is raw web eith ever to me hath page that is raw web eith ever to me hath page that is a single that the ever to me hath page that is a single that the ever to me hath page that the ever to me hat the ever to me page that 18 linked through the Web into server 57 and through the both private 57 let the system of the example. Let the serving the serving serving 58 and 68 networks. In the example, let us Public 54, 55 and 68 networks. In the example, available assume assume name and has already accessed a humanink on the name assume name and has needed on a humanink on the name assume name and has needed on a humanink on the name and has needed on the n assume the user has already accessed a publicly the page, sunnort for the user has pressed on a hyperlink on the to technical aumnort for the user has pressed in the to technical aumnort for the user has pressed in the to technical aumnort for the user has pressed on a hyperlink to technical aumnort for the user has pressed on a hyperlink to technical aumnort for the user has already accessed a publicly available the page. IBM Web Page and nas pressed on a nyperlink on the page, recommissed to technical recommissed pressed on a nyperlink in recommissed recommissed recommissed to technical recommissed pressed on a nyperlink in recommissed pressed on a nyperlink on the page, and nas pressed on a nyperlink on the page, and nas pressed on a nyperlink on the page, and nas pressed on a nyperlink on the page, and nas pressed on a nyperlink on the page, and nas pressed on a nyperlink on the page, and nas pressed on a nyperlink on the page, and nas pressed on a nyperlink on the page, and nas pressed on a nyperlink on the page, and nas pressed on a nyperlink in recommissed to technical recommissed on a nyperlink on the page, and nas pressed on a nyperlink in recommissed to technical recommissed on a nyperlink in recommissed on a nype "IC-Tech". This hyperlink links to technical support for the server for two noseinle having two noseinle a particular product. The having two noseinle that the hyperlink is one having the having that the hyperlink is one having the having that the hyperlink is one having the having the hyperlink is one had a hyperlink is one had hyperlink is one had hyperlink is o public 54, 55 and 68 networks. that the hyperlink is one naving two possible the link in the user who activated the anter the alternatives:

alternatives: a particular product. one having two possible that the hyperlink is one having two possible that alternatives: eltner the user who activated the the the description is authenticated to enter the the general Web Page is authenticated to enter the the general web page the continuous for the continuous private network 57; or the user must be connected to a the public available available to a member of the deneral technical support Public available site 54, 55 or 68. In this example, the general to a member of the general remarks and the commence of the general remarks and the ge technical support avallable to a member or the general technical would, of course, be much less comprehensive and public would, 30

15

20

25

30

would not contain any organization confidential data. However, the same hyperlink, i.e. the same IP address or URL (Uniform Resource Locator) is used to reach Web server 51. In this simplified example, there may be stored in storage 53, a list, 67, of the authorized IPs of IBM employees, and if the server 51 determines that the hyperlink has been activated from a receiving station 63 through 65 that has an IP on the list 67, then the router 52 routes the requested link through the protected network or firewall to the secured intranet of the business organization 57. If the requesting Web station IP address 63 through 65 is not on the authenticated list, then the server routes the requested link to an appropriate open or public site from which technical data suitable to the general public may be sent. transactions are completely transparent to the requesting users.

While in the example given the alternate document sources or sites available through the same hyperlink in a Web document have been illustrated with attributes determining private or public information, it is to be understood that other attributes or parameters may be In a business organization, alternative information may be made available dependent on the geographical location. For example, consider a central weather bureau database site for the state of Texas. There may be up to four regional Web pages available for east, west, north and south. Thus, when a hyperlink, "Today's Weather", is activated in a ".gov" Web page for the state, and consequently linked to the appropriate server 51, the location IP of the requester may be determined as to section of the state and the link routed to the site for that section.

15

20

25

30

In all of the examples given above, the location or IP address of the requesting user has been given as the attribute that determines which of the alternate Web documents will be selected responsive to the activation of the hyperlink. However, other predetermined attributes may be used. Expedients are available for keeping track of the path through the Web that the user has navigated in reaching the document having the hyperlink to alternate Web documents. In the simplest case, if the tracked history indicates that the user has already visited one of the alternate linked documents, it would be logical to link him to one of the Web documents not previously visited. If the tracked data indicates that the user has been navigating through a path of Web documents related to medical information and if one alternative linked documents relates to medicine, while the other relates to the environment, then the data predetermining the choice would be the medical Web path and the user would be linked to the medical Web document.

Other attributes that predetermine which of a plurality of alternative Web pages may be selected by the activation of the same hyperlink may relate to the conditions under which the hyperlink in the Web document is being activated. For example, in the Acrobat program available from Adobe Systems Inc., documents are set up in PDF (Portable Document Format) files viewable on several platforms. The selection between alternate linked Web documents may be determined by the platform of the system on which the Web documents are to be displayed.

In the last described aspects of the invention, the choice of alternate Web documents will be accessed through the same link based upon the Web navigation

conditions, etc. This is an HTML implementation like the union type variable in C programming in which a program data structure, the union variable, is interpreted according to how it is used in the program.

Referring to Fig. 2, a typical data processing 5 terminal is shown that may function as the computer control terminals for Web sites, computer control terminals at requesting user stations or the servers that connect requesting user sites or Web sites into the Web, as well as server 51 of Fig. 1. A central processing unit (CPU) 10, such as one of the workstations or commercial microprocessors in personal computers available from IBM or Dell Corporation; or a workstation, e.g. RISC System/6000™ (RS/6000) series available from IBM. The CPU is interconnected to various other 15 components by system bus 12. An operating system 41 runs on CPU 10, provides control and is used to coordinate the function of the various components of Fig. 1. Operating system 41 may be one of the commercially available operating systems, such as IBM's AIX™ operating systems; 20 Microsoft's Windows XP™ or Windows2000™, as well as UNIX and LINUX operating systems. Application programs 40, controlled by the system, are moved into and out of the main memory Random Access Memory (RAM) 14. These programs include the programs of the present invention 25 operable in server 51 for linking a requesting user who has activated a hyperlink in a Web document to alternate Web or other network documents. A Read Only Memory (ROM) 16 is connected to CPU 10 via bus 12 and includes the Basic Input/Output System (BIOS) that controls the basic 30 computer functions. RAM 14, I/O adapter 18 and communications adapter 34 are also interconnected to system bus 12. I/O adapter 18 may be a Small Computer

System Interface (SCSI) adapter that communicates with communicates with communicates with communications adapter that communicates with communicates wi AUS920030388US1 System Interface (SCSI) adapter that communicates with communications adapter that communicates with the communications adapter that communications adapter that communications adapter that communications adapter that communicates with the communications adapter that communicates with the communications adapter that communicates with the communication of the the disk storage device 20. Communications adapter 34 to he interconnects bus large with the outside network, he interconnects when or Interconnects with the outside meant to he with or Internet are meant to he interconnects when the outside network, he communications adapter 34 the communications adapter Web. The terms, web or Internet, are meant to be present to be present are meant to be present the present are so used in the present of the present are meant to be present the present of the present o generally interchangeable and are so used in the present I/O devices are distribution network. Interface distribution of the distribution wis user interface description of the everem has 12 via user interface. description or the distribution network. interface interface of the system bus 12 via user waynaged to system also connected to system also connected to also connected als Keyboard 24 and mouse 26 are all interconnected to pus 12 through user devices

It is through such when names.

It is through such when names.

It is through such when names interactively relate to wen names. adapter 24 and display adapter 36. Keyboard 24 ar through user 26 are all interconnected to bus 12 through user 26 are all interconnect adapter 22 and display adapter 36. Interface adapter 12. It is through such input device interactively relate to Web pages.

That the user may includes a frame hiffer 30 which includes a frame hiffer that the user may interactively relate to web pages. is a frame buffer 39, which nixel that the user may includes a frame buffer of each nixel pisplay adapter that holde a renrecentation of each nixel DISPLAY adapter that nolds a representation of each pixel that nolds a representation of each pixel that nolds a representation of each pixel at the total and the entered in frame may be entered in frame of the device acreen 38 storage device that holds a representation of each pixel
Images may be stored in frame
Images may be stored in graine
Images on the alsplay display on monitor 38 through various buffer 39 for display airital to analog commonante. buffer 39 for display on monitor 38 through various (not components; such as a Ry veing the aforementioned to components; the like components components components; the like components compo components; such as a digital to analog converter (not snown) and the like. By using the aforementioned I/O

snown) and the like capable of inputting information to

devices, a user is capable of inputting information to

devices, through the keyhoard 24 or movies 26 and

the evertem through the keyhoard 24 or movies 26 and devices, a user is capable of inputting intornation and the system through the keyboard 24 or mouse 26 and the system through t the system through the keyboard 24 or mouse 26 and display the system via display the system via display the system output information receiving output was station a receiving web scarlon. the development of a flowchart showing the rig. Fig. 3 15 a flowchart snowing the development or a web process according to the activated a hyperlink in a process according to the activated a hyperlink in a process according to the activated a hyperlink in a web process according to the activated a hyperlink in a web activate Process according to the present invention for linking to the present invention for linking to the present invention for a web activated a hyperlink natural natural process according to the present invention for a natural 38 at a receiving Web station. requesting user who has activated a hyperlink in a wer document to alternate Web documents or other network ments. organization's, e.g. business's, web site At an organization's, e.g. pusiness's, web site there is provided a there would wide web, an attendant storage facility on the world wide with an attendant storage facility on the world wide storage with an attendant storage facility on the world wide some site section. racility on the World Wide Web, there is provided a attribute on the World Wide Web, the attendant attribute with an attendant attribute racility on the site server he atored defining attribute controlling web site at may be atored defining which data may be atored defining to the defining which data may be atored defining to the data may be atored defining to the defining the defining the data may be atored defining the d controlling web site server with an attendant storage with an attendant storage with an attendant storage with an attendant storage attributes be stored defining attributes be stored defining attributes be stored defining attributes hetween the narticular web function on which data may hetween the narticular web function on distinguish hetween the discern or distinguish hetween the discern or distinguish hetween the narticular web function on distinguish hetween the narticular web functions at the narticular web functions and distinguish hetween the narticular web functions are distinguished by the narticular web functions and distinguish hetween the narticular web functions are distinguished by the narticular web functions are dist 20 runction on which data may be stored derining actribut to discern to discern etations from which we are will activate TO alscern or alsclingular which users will activate receiving stations from which users receiving 12-12-3 recelving stations from which web site facility, step this web site facility, step this web site facility. documents. 25 30

Provision is made for the processing of Web document Provision is made for the processing of hyperlinks to the Web site facility made hyperlinks to the web sartivation of hyperlinks to the sarti AUS920030388US1 requests to the web site facility made from web receiving hyperlinks to be sent from the activation of hyperlinks mhere is stations through the web eith corner eten 77 Via the Web to the Web site of alternate Web document

Provision the Web of the total stations the Web to the Web site server, when the web site server is the web site server. Provision for a plurality of alternate web document authorized users that only authorized web accuments the web site so that only web at the hueinees-secured web access to the hueinees-secure sources at the web site so that only authorized users
to the business secured Web documents
the general minio will have access to the present the general minio will the inauthorized neere will nave access to the pusiness-secured web documents the general public, while the unauthorized as alternate non-secure was access to an alternate non-secure was access to while the unauthorized users; the general public, will be general public, will the general public, will be general publi only nave access to an alternate non-secure web activating only nave access to these different types of users activating in response to these a numerical human accument with the same humanian in a numerical secure when accuments activating the same humanian in a numerical secure humanian access to an alternate non-secure web activating and access to an alternate non-secure web activating in the same humanian access to an alternate non-secure web activating and access to an alternate non-secure web access to a non-secu in response to these different types or users activating attributes the same hyperlink in a this example uses the attributes the same hyperlink that this example uses the attributes the same hyperlink that the factorial that the same has noted the same has noted the same to be noted that the same to be noted to be noted that the same to be noted that the same to be noted that the same to be noted to be noted that the same to be noted that the same to be noted to be no the same nyperlink in a nypertext web document, step 73.

The same nyperlink in a nypertext web document, step 73.

The same nyperlink in a nypertext web document, step 73.

The same nyperlink in a nypertext web document, step 73.

The same nyperlink in a nypertext web document, step 73.

The same nyperlink in a nypertext web document, step 73.

The same nyperlink in a nypertext web document, step 73. of being authorized or not authorized may no need to ahove other narameters or attributes. or permy authorized or not authorized was eitee or attributes may be used to other parameters or aifferent was eitee or above; route the same nyperlink to different Web sites of IP addresses

to different New Site apover orner parameters or attributes may be used to different web sites or route the same hyperlink to different web sites or route the same hyperlink to different web sites or route the same hyperlink to different web sites or route the same hyperlink to different web sites or route the same hyperlink to different web sites or route the same hyperlink to different web sites or route the same hyperlink to different web sites or route the same hyperlink to different web sites or route the same hyperlink to different web sites or route the same hyperlink to different web sites or route the same hyperlink to different web sites or route the same hyperlink to different web sites or route the same hyperlink to different web sites or route the same hyperlink to different web sites or route the same hyperlink to different web sites or route the same hyperlink to different the same hyperlink the same hy documents. Storage is provided for lists of IP addresses up, the storage is provided for lists of IP addresses are no lists of IP addresses are up, and the storage is provided for lists of IP addresses are up, and a storage is provided for lists of IP addresses are up, and a storage is provided for lists of IP addresses up, and a storage is provided for lists of IP addresses up, and a storage is provided for lists of IP addresses up, and a storage is provided for lists of IP addresses up, and a storage is provided for lists of IP addresses up, and a storage is provided for lists of IP addresses up, and a storage is provided for lists of IP addresses up, and a storage is provided for lists of IP addresses up, and a storage is provided for lists of IP addresses up, and a storage is provided for lists of IP addresses up, and a storage is provided for lists of IP addresses up, and a storage is provided for lists of IP addresses up, and a storage is provided for lists of IP addresses up, and a storage is provided for II and a storage is provided for lists of IP addresses up, and a storage is provided for II and a storage is provided for lists of IP addresses up, and a storage is provided for II and step 151 in the server ror comparing the site facility provision is made for addresses of any activated nyperlink provision is made for addresses of any aren 74. or all authorized users; step 14. A routine is ser for comparing the stored in the server for comparing to the eite factor of any antimated hymerical to the eite factor of any antimated hymerical authorized hymerical au addresses of any activated nyperlink to the site for provision of an activated in step 74.

to the list simal indicative of the activation of the to the list simal indicative of the activation of the cending a cional indicative of the cending a cional indicativ to the list stored in step 14. provision is made an step 14. the activation of an sending a signal indicative of the activation of sending a signal int wis the correct to the incidence sending a signal int wis the correct to the incidence sending as alternate hyperstate of the activation of the acti sending a signal indicative of the activation of an activation of the husiness afternate hyperlink via the server to assume alternate hyperlink via the server to assume alternate hyperlink via the server to assume the server to be activation of an activation of the husiness to the husiness to the server to assume the server to assume the server to be activation of the husiness to the server to be activation of the husiness to the server to be activation of the husiness to the server to be activation of the husiness to the server to be activation of the husiness to the server to be activation of the husiness to the server to be activation of the server to be activated by the alternate nyperlink via the server to the unsiness the secured Web document source is the irrated commorpe as secured Web document in the secu Secured web accument source is the it address of the secured web accument hyperlink was activated normal station where hyperlink alternated. station where nyperlink was activated provision is made

Alternately, provision requests from

Alternately, requests from

Alternately, requests from

authorized in step 76.

authorized in of activated hyperlink requests from authorized in for the sending of activated hyperlink requests. authorized in step 10. Alternately, provision is made for the sending of activated hyperlink requests for the sending of activated hyperlink requests for the sending of activated hyperlink requests. ror the sending or activated hyperlink requests firm unauthorized IP locations to non-secured Web page ces, step 11. of the process set up in Fig. 3 will now the process set up in Fig. 3 will now the financhart of Fig. 4.

The running of the process set up in Fig. 3 will now the financhart of Fig. 4.

The running of the process set up in Fig. 3 will now the figure of Fig. 4. 20 The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the process set up in kig. 4.

The running of the running of the process set up in kig. 4.

The running of the runnin De descriped with respect to the receives a request when the who satiration of a manufacture at an analysis when the whole at a satiration of a manufacture at an analysis when the whole at a satiration of a manufacture at an analysis when the satiration of a manufacture at a satiration of a manuf through the activation of a nyperlink, step 80, a to whether the activated made as to whether the activated determination is first made as to whether the activated activated when the web site racility server receives a requer through the activation of a hyperlink, step activation of the activation of a hyperlink, step activation o Sources, step 17. 25 30

```
hyperlink is one set up to have alternate linking
                                           capability, step 81. If No have alternate linking cant to the announced to the announced to the announced to the announced to
                                         capability, step 81.

conventionally, step 81.

document converse 82, and sent to the appropriate Web
                                        document source as the site sent to the appropriate the site of that the
                                       document source as the site facility so that the standard hyperlinked document may be sent, step 84.
                                     the determination at step 81 is Yes, the hyperlink has
                                    the determination at step & I s was the nyperink nas andrage of the rammasting was gration is commonared.
                                  the Ip address of then, rollowing the process or fig. 3.

alist of anthorized IDs stored at the site compared
                                 to a list of authorized lps stored at the site server,
                                step 83, and a determination is made, step 85, as to
                               authorized Ip.
                             appropriate public Web document source maintained at the
                           Web site, step 86, and document source maintained at the requesting user step 86, and the suitable web document is sent
                          to the requesting user, step 87. If Yes, che Ip address
                         is on the authorized ip list, then the hyperlinked
                       request is alternately sent to a Web document source on a
                      appropriate document may be sent, step 89. At this
                   appropriate gocument determination may be sent, step &s. At this conveniently be made as to whether ti
                  determination may conveniently be made as to whether the
                 communication may conveniently be made as to whether the reaction is hearth is hearth is hearth is hearth is hearth is hearth hark to etc.
               exited. If No, then is over, step 90. If Yes, it is branched back to step
              80 Via branch "B".
                   One of the preferred implementations of the present
           One of the preferred implementations of the presentation of nroarammina stens or instructions for
       25
         Made up of programming steps or instructions for
        determining the alternate destinations of the hyperlinks
       normally resident in RAM 14, Fig. 2, of the hyperline frame in the server 51
     during various Web operations. Until required by the server of the server.
    computer system, the program instructions may be stored
30
  in another system, the program instructions may be stored for in a nontrical disk drive 20 or in a nontrical arm in a roll of the stored in a roll of the system.
 In another readable medium, e.g. in disk drive 20 or in a financy when in a financy disk for use in a co
ROM Computer input or in a floppy disk for use in a final
```

15

floppy disk drive computer input. Further, the program instructions may be stored in the memory of another computer prior to use in the system of the present invention and transmitted over a Local Area Network (LAN) or a Wide Area Network (WAN), such as the Web itself, when required by the user of the present invention. One skilled in the art should appreciate that the processes controlling the present invention are capable of being distributed in the form of computer readable media of a variety of forms.

Although certain preferred embodiments have been shown and described, it will be understood that many changes and modifications may be made therein without departing from the scope and intent of the appended claims.